

*B*, making very little air enclosed in the space under *E*. An inverted vessel rarely sits firmly when inverted over water and a bent tube may be used to draw out some of the air under *E*. This will make *E* more steady, and will also make the water rise in *E* and lessen the air space. If too much air is drawn out, and the water around *B* rises too high, it will be difficult to remove *E* at the end of the experiment without the risk of causing an overflow into *B* and breaking the heavy film that forms on the surface of the lime water.

The control is exactly the same, except the leaf is omitted. The air space under *E* is so small that in the control but a partial, delicate film is formed on the lime water, contrasting strongly with the heavy one formed in 12 to 24 hours by one green leaf.

TEACHERS COLLEGE

## NOTES ON RUTACEAE — VI. SPECIES OF SPATHELIA\*

BY PERCY WILSON

The species of *Spathelia* L. are confined, in so far as known, to the West Indies, with a very doubtful species reported from Mexico.

Of the five recognized species of *Spathelia*, *S. simplex* and *S. glabrescens* are endemic in the island of Jamaica, while *S. cubensis* is known only from the province of Oriente, Cuba, and *S. Brittonii* from the province of Pinar del Rio. *S. vernicosa*, originally described from specimens collected in eastern Cuba, is also found on Cat Island, Bahamas.

They are slender unarmed trees one to twenty-four meters tall, with simple unbranched trunks conspicuously marked with leaf-scars, and bearing pinnate leaves, and large panicles with showy purplish or scarlet flowers at the summit. The ovary is usually 3-celled, and the fruit normally 3-winged.

It is apparent from observations made by several students of West Indian plants, that wherever species of *Spathelia* are found there are always present, in a dead or dying condition, a few speci-

\* Notes on Rutaceae—V was published Bull. Torrey Club 38: 295-297. 6 JI 1911.



FIG. 1.

FIG. 1.—In each figure *a* = sepals (or calyx),  $\times 2$ , *b* = petals,  $\times 2$ , *c* = stamens,  $\times 2$ , *d* = leaflets,  $\times \frac{1}{2}$ .

1. *Spathelia glabrescens* Planch.

2. *Spathelia Brittonii* P. Wilson.

3. *Spathelia cubensis* P. Wilson.

4. *Spathelia simplex* L.

5. *Spathelia vernicosa* Planch.

The figures have been made from drawings by Miss M. E. Eaton.

mens bearing old fruiting inflorescences, and in no instance do they appear to have been destroyed by disease or fire. Other observers who have had the opportunity to study them during their entire stage of reproduction, assert that the plants show signs of decay with the maturing of their fruits and soon afterward die. It would undoubtedly afford an interesting subject for investigation to ascertain the age the various species of *Spathelia* reach before producing their flowers and fruits. Definite information upon this subject appears to be lacking.

Descriptions of each of the foregoing species will be found in North American Flora 25: 206-208. 1911.

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## SHORTER NOTES

### NEW NAMES IN ILEX

✓ *Ilex kingiana* n. n.; *Ilex insignis* Hook. f., Fl. Brit. Ind. I, 599 (1872); not *I. insignis* Heer, Fl. Foss. Alask. 37, pl. x (1869).

✓ *Ilex microphyllina* n. n.; *Ilex microphylla* Newby. Proc. U. S. Nat. Mus. 5: 510 (1883); not *I. microphylla* Hook. Ic. Pl. or Spreng. D. C. Prod. 2: 12.

*Salix fastwoodiae* in the new edition of Heller's Catalogue, p. 89, is of course a misprint for *S. Eastwoodiae*, as its position in the list shows. It is *S. californica* Bebb. (not Lesq.).

T. D. A. COCKERELL

## REVIEWS

### Alexander's Outline Key of Michigan Sunflowers\*

The utter impossibility of fitting the sunflowers of southeastern Michigan into the specific limits of sunflowers as given in the manuals, has led Mr. Alexander, of Detroit, to undertake the study of these plants. As the result of six years of study, he has worked out a system of classification of the perennial sunflowers, based upon the underground parts of the plants. He recognizes two main groups which he calls the STOREATAE, in which the roots and root-stocks are tangled together into a close

\* Alexander, S. Outline Key of the Groups of the Genus *Helianthus* in Michigan. Report Mich. Acad. Science 13: 191-198. f. 1-5. 1911.